

Appl. No. 09/450,640
Amdt. Dated Dec. 11, 2003
Reply to Office action of November 19, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): An audio communications control system useful in training operations on tactical systems communications equipment onboard a ship, the audio communications control system comprising:

ship communications equipment operable from a plurality of remote locations onboard a ship for communication with a centralized control center, the ship communications equipment including a plurality of audio communications systems, wherein at least one of the plurality of audio communications systems includes audio equipment and signal processing unlike that of the balance of the plurality of audio communications systems processing;

a tactical training system operable with the central control center for interfacing with tactical equipment distributed through the plurality of remote locations, the tactical training system providing a communications connection to a wide area network (WAN) for communicating with other ships participating in a training exercise;

a headset having a left speaker, a right speaker, and a microphone for providing an operator with voice transmission;

an audio interface operable between the tactical training system and the headset, the audio interface providing an electrical connection to the ship communications equipment for operation therewith, the audio interface switching discrete audio communications connections from any ship communications equipment and routing audio signals representative of the discrete connections to each of the left speaker[,] and the right speaker, and from the microphone of the headset; and

an operator control interface operable with the audio interface for controlling the routing and switching of the audio signals, the operator control interface including an

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interactive graphical display for selection of the communications equipment to be operable with the headset.

Claim 2 (original): The audio communications control system according to Claim 1, wherein the ship communications equipment comprises communications equipment selected from the group consisting of a tactical radio telephone system, an interphone system, a sound power telephone system, and a surface ship telephone system.

Claim 3 (original): The audio communications control system according to Claim 1, wherein the tactical training system comprises a battle force tactical trainer.

Claim 4(original): The audio communications control system according to Claim 1, wherein the audio interface comprises a central processing unit operable with the operator control interface for processing control functions thereof, and wherein the central processing unit receives input from a computer mouse for selection of the routing and switching.

Claim 5 (original): The audio communications control system according to Claim 1, further comprising:

- a personal computer operable with the audio interface;
- a monitor operable with the personal computer for displaying the graphical display; and
- an input device for operation with the operator control interface.

Claim 6 (original): The audio communications control system according to Claim 5, wherein the input device comprises a computer mouse operable with the monitor for selecting the communications system and routing of audio signals to the headset.

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Claim 7 (original): The audio communications control system according to Claim 1, wherein the audio interface includes a network control module for sending and receiving network packets of information across the WAN.

Claim 8 (original): The audio communications control system according to Claim 1, wherein the audio interface includes a digital signal processor for converting analog audio signal received from the communications equipment into a digital signal for processing thereof.

Claim 9 (original): The audio communications control system according to Claim 8, further comprising a time encoder operable with a global positioning system for time stamping of audio packets transmitted and received via the WAN.

Claim 10 (original): The audio communications control system according to Claim 1, wherein the graphical display of the operator control interface comprises left and right channel graphical user interface buttons for selection of a desired audio connection to the communications equipment.

Claim 11 (original): The audio communications control system according to Claim 1, wherein the graphical display of the operator control interface comprises scenario control buttons for selection of a desired virtual frequency channel of the WAN for input to one of the left speaker and the right speaker, as desired.

Claim 12 (original): The audio communications control system according to Claim 1, wherein the graphical display of the operator control interface comprises an interphone button for accessing equipment within an interphone communications system through selection on a speed dial menu.

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Claim 13 (original): The audio communications control system according to Claim 1, wherein the graphical display comprises a graphical user interface display that is reconfigurable to a desired communications system display.

Claims 14-17 (canceled)

Claim 18 (currently amended): An audio communications control system comprising:
a single headset having a left speaker, a right speaker, and a microphone for
providing an operator with voice transmission;

an audio interface for operating between a plurality of audio communications
equipment and the single headset, the audio interface providing an electrical connection
to the plurality of voice communications systems for operation therewith, the audio
interface switching discrete audio communications signals therefrom and routing the
audio signals to one of the left speaker and the right speaker, and from the microphone of
the headset;

an operator control interface operable with the audio interface for controlling the
routing and switching of the audio signals, the operator control interface including a
display for viewing by the operator and manual selection of the discrete audio
communications signals to be operable with the single headset; and

the audio communications equipment operable from a plurality of remote
locations for communication with a centralized control center, the communications
equipment including a plurality of audio communications systems, wherein at least one of
the plurality of audio communications systems includes audio equipment and signal
processing ~~The audio communications control system according to Claim 17, wherein the~~
communications equipment includes communications equipment selected from the group
consisting of a tactical radio telephone system, an interphone system, a sound power
telephone system, and a surface ship telephone system.

Claims 19-27 (canceled)

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Claim 28 (currently amended): A method for communicating with a plurality of voice communications systems, the method comprising the steps of:

providing a single headset having a left speaker, a right speaker, and a microphone for providing an operator with voice transmission;

electrically connecting an audio interface between a plurality of audio communications systems and the single headset, the audio interface switching discrete audio communications signals from the plurality of audio communications systems and routing the discrete audio signals to one of the left speaker[,] and the right speaker, and from the microphone of the headset in response to a command from an operator;

providing a graphical user interface operable with the audio interface for controlling the routing and switching of the audio signals, the operator control interface including a push button styled display for viewing by the operator and manual selection of discrete audio communications signals for operating with the headset; and

operating the graphical user interface for connection to a first discrete audio communications system and routing a first discrete audio signal to one of the left speaker and the right speaker of the single headset;

operating the graphical user interface for connection to a second discrete audio communications system and routing a second discrete audio signal to another of the left speaker and the right speaker of the single headset; and

operating the graphical user interface for connection of the microphone of the headset to a third discrete audio communications system.

Claim 29 (currently amended): The communicating method according to Claim 28, wherein the audio signals ~~comprises~~ comprise voice signals.

Claim 30 (original): The communicating method according to Claim 28, further comprising the step of providing a second single headset operable with the audio interface by a second operator.

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Claim 31 (original): The communicating method according to Claim 28, wherein at least one of the plurality of audio communications systems includes audio equipment and signal processing unlike that of the balance of the plurality of audio communications systems.

Claim 32 (currently amended): The communicating method according to Claim 28, further comprising the steps; steps of:
connecting a personal computer to the audio interface;
providing a monitor operable with the personal computer for displaying the graphical user interface thereon; and
connecting a computer input device to the personal computer for actuating the graphical user interface.

Claim 33 (original): The communicating method according to Claim 32, wherein the input device connecting step comprises the step of connecting a computer mouse operable with the monitor.

Claim 34 (original): The communications method according to Claim 28, further comprising the step of selecting control buttons of the graphical user interface for communication between the headset and a wide area network (WAN), wherein the audio interface includes a network control module for sending and receiving network packets of information across the WAN.

Claim 35 (original): The communications method according to Claim 34, further comprising the step of time encoding a recording of voice communications using a global positioning system for time stamping of audio packets transmitted and received via the WAN.

Claim 36 (original): The audio communications system according to Claim 35, wherein the display of the operator control interface comprises a graphical user display including

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scenario control buttons for selection of a desired virtual frequency channel of the WAN for input to one of the left speaker and the right speaker, as desired.

Claim 37 (original): The communicating method according to Claim 28, further comprising the step of configuring the graphical user interface for displaying control and switching buttons operable with a preselected set of communications systems.

Claim 38 (original): The communicating method according to Claim 37, wherein the configuring step comprises the step of displaying left and right channel buttons.